

be cost-effective compared to the most prominent comparators in management of infertility in The Netherlands.

### PIH33

#### COST-EFFECTIVENESS OF LONG-ACTING REVERSIBLE CONTRACEPTION: LNG-IUS 13.5MG, A LOW-DOSE CONTRACEPTIVE LEVONORGESTREL INTRAUTERINE SYSTEM VERSUS ORAL CONTRACEPTIVES

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**OBJECTIVES:** This study aimed to evaluate the cost-effectiveness of LNG-IUS 13.5mg, a low-dose hormonal intrauterine contraceptive system for use up to 3 years, relative to the most commonly used oral contraceptive (OC) in Canada from a societal perspective. **METHODS:** A state-transition model was developed to assess the cost-effectiveness of LNG-IUS 13.5mg over 3 years in a cohort of 1,000 women of reproductive age (15-44 years). The comparator was a generic version of the 100 mcg levonorgestrel and 20 mcg ethinyl estradiol OC. The model consisted of three mutually exclusive health states: initial contraceptive method, unplanned pregnancy (UP) due to contraceptive failure and subsequent contraceptive method, taken up following UP or due to discontinuation of the initial method. The subsequent contraceptive method was represented by a basket of market-weighted contraceptives. Contraceptive failure and discontinuation rates were taken from published literature, resource use was estimated from product monographs and unit costs were taken from standard Ontario and Quebec cost databases. Analysis from the societal perspective allowed the model to incorporate economic costs associated with missed work. The key model output was cost per UP avoided. Probabilistic sensitivity analyses (PSA) were performed. **RESULTS:** LNG-IUS 13.5mg dominated the OC method, resulting in fewer UP (8 vs. 180) and lower total costs (\$665,224 vs. \$1,102,456), representing a savings of \$437,232 over 3 years. Overall savings resulted from fewer UP and avoided costs associated with the uptake of the subsequent contraceptive method. PSA results indicated a high probability of dominance as all iterations showed LNG-IUS 13.5mg to be more effective and less costly. **CONCLUSIONS:** LNG-IUS 13.5mg is an effective contraceptive option that generates savings compared to a generic OC.

### PIH34

#### ECONOMIC EVALUATION OF OXYTOCIN IN UNIJECT INJECTION SYSTEM VERSUS STANDARD USE OF OXYTOCIN FOR THE PREVENTION OF POSTPARTUM HEMORRHAGE IN LATIN AMERICA AND THE CARIBBEAN

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**OBJECTIVES:** Postpartum hemorrhage (PPH) is a leading cause of maternal death. Although the strong evidence showing the efficacy of oxytocin in preventing PPH, its use remains suboptimal. The Uniject injection system pre-filled with oxytocin (OiU) has the potential advantage, due to its ease of use, to increase oxytocin coverage rates (OCR). This study objective is to evaluate the cost-effectiveness of OiU in Latin America (LAC). **METHODS:** We built an epidemiological model to estimate the impact of replacing oxytocin in ampoules with OiU on the incidence of PPH, quality-adjusted life years (QALYs) and costs from a health care perspective. A systematic search for data on epidemiology and cost studies was undertaken. A consensus panel among LAC experts was performed to quantify the expected increase in OCR as a consequence of making OiU available. Deterministic and probabilistic sensitivity analyses were performed. **RESULTS:** In the threshold analysis the minimum required increment in the OCR to make OiU a cost-effective strategy ranged from 1.3% in Suriname to 16.2% in Haiti. In more than 60% of the countries, the required increment was below 5%. OiU could prevent more than 40,000 PPH episodes annually in LAC. In 27% of the countries OiU showed to be cost saving. In the remaining 21 countries OiU was associated with a net cost increment (\$ 0.005 to \$0.780 2013 US dollars per delivery). OiU strategy ranged from being dominant to having an ICER of \$9,454 per QALY gained. In the great majority of countries these ICERs were below one GDP per capita. **CONCLUSIONS:** OiU was cost-saving or very cost-effective in almost all countries. Even if countries can achieve only small increases in OCR by incorporating OiU, this strategy could be considered an efficient use of resources. These results showed to be robust in the sensitivity analysis under a wide range of assumptions and scenarios.

### PIH35

#### THE COST-EFFECTIVENESS OF ANTENATAL SYPHILIS SCREENING USING POINT-OF-CARE TESTING IN LATIN AMERICA

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**OBJECTIVES:** Untreated syphilis in pregnancy is associated with adverse clinical outcomes to the infant. In Latin America, roughly three out of every ten women are not tested for syphilis during pregnancy. The objective of this analysis was to evaluate the cost-effectiveness, budget impact, and potential reduction in adverse pregnancy outcomes of antenatal syphilis screening using the recently introduced point of care immunochromatographic strip test across 20 countries in Latin America. **METHODS:** A previously published cost-effectiveness model was adapted to reflect the perspectives of the respective national health care systems. Clinical outcomes of infants born to syphilis-infected mothers on the endpoints of stillbirth, neonatal death and congenital syphilis were obtained from published sources. Treatment was assumed to consist of three injections of benzathine penicillin. Country-specific inputs included the antenatal prevalence of syphilis; annual number of live births; proportion of women with at least one antenatal care visit; per capita gross national income and estimated hourly nurse wages. **RESULTS:** In all 20 Latin American countries, syphilis screening is highly cost-effective with an weighted average cost/DALY averted of US\$110 (range: US\$10-US\$308). Universal

screening may reduce the annual number of stillbirths by up to 2,900, neonatal deaths by up to 1,100, the annual incidence of congenital syphilis by up to 1,450 and avert up to 130,000 DALYs at an incremental annual direct medical cost of US\$ 5.9 million. The three relatively high prevalence countries of Brazil, Colombia and Haiti, account for over half of the total DALYs that could potentially be averted, whereas Chile and Cuba have already adopted universal screening. **CONCLUSIONS:** Use of ICS tests for antenatal syphilis screening is highly cost-effective in low and middle income countries in Latin America. Antenatal programs should either expand access or maintain full access to syphilis screening using the ICS test.

### PIH36

#### COST-EFFECTIVENESS ANALYSIS OF COFFEE CONSUMPTION FOR PREVENTION OF ALL-CAUSE MORTALITY IN THE UNITED STATES

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**OBJECTIVES:** Coffee (*Coffea arabica*) contains over 1,000 distinct molecular compounds and is one of the most widely consumed beverages worldwide. Epidemiologic studies have shown an inverse relationship between coffee consumption and all-cause mortality. This analysis aims to assess the cost-effectiveness of coffee from the perspective of the US consumer and payer. **METHODS:** A cohort life-table analysis was developed to model life-years (LYs) of US coffee consumers vs non-consumers over a lifetime horizon. Age- and gender-specific mortality rates were used to model survival outcomes. Relative risks of death by average coffee intake (cups/day) were obtained from a recent large, prospective US cohort study. Costs per cup were estimated for home preparation and obtained from a national sample of low- and high-cost vendors. Incremental analyses were conducted by cost, sex, and level of daily coffee consumption. Deterministic (DSA) and probabilistic (PSA) sensitivity analyses were conducted. The model was validated by comparing life expectancy results to a model utilizing relative risks of cancer and chronic diseases based on coffee consumption. **RESULTS:** Coffee increased undiscounted LYs in 1, 2-3, 4-5, and 6+ cup/day male (0.72, 1.23, 1.48, and 1.22) and female (0.53, 1.42, 1.77, 1.65) consumers, respectively, versus non-consumers. ICERs per discounted LY gained were \$5,460, \$11,326, \$24,254 for males and \$5,885, \$8,910, \$20,145 for females, respectively, for 1, 2-3, and 4-5 cups/day consumption of home-prepared coffee; 6+ cups/day was strictly dominated. Consumption of 4-5 cups per day purchased from high-cost vendors was not cost-effective, with ICERs >\$50,000/LY-gained. DSA showed that coffee effectiveness in preventing death and coffee acquisition cost had the largest impact on ICERs. **CONCLUSIONS:** In this analysis, coffee consumption was associated with increased LYs and was shown to be potentially cost-effective, especially if home-prepared or purchased from low-cost vendors. Given the observational nature of the study data, further research is warranted to validate these findings.

### PIH37

#### COST EFFECTIVENESS ANALYSIS OF THE USE OF HUMAN FIBRINOGEN (CLOTTAFAC<sup>®</sup>) IN MASIVE POST-PARTUM HEMORRAGEA IN MEXICO

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**OBJECTIVES:** Maternal Death (MD) is a health public issue in Mexico, the MD Ratio (MDR) is 43.2 deaths/100,000 newborns, the Post-Partum Hemorrhage (PPH) represents the second cause of MD (23%), with a higher impact in Mexican provinces with poor or limited blood products access. The purpose of this study was to estimate from the health service provider perspective, the cost-effectiveness in the use of Human Fibrinogen (HF) (Clottafact<sup>®</sup>) in the hematologic treatment of masive PPH during limited access of blood products (access after 20 minutes). **METHODS:** A decision tree was created to estimate the survival probabilities and costs of PPH under a limited blood product access scenario, the use of HF or the use of recombinant Factor VII alfa (Factor rVIIa). The effectiveness was obtained from literature. The costs were estimated throughout an expert consensus and were expressed in US Dollars (exchange rate 1USD/13.0 MXN). The CER and ICER were estimated per saved live and a probabilistic sensibility analysis was performed. **RESULTS:** The average cost per treated patient with limited access to blood products was 12,350 USD, with HF was \$13,182 USD whereas with Factor rVIIa it was \$14,526 USD. The survival rate was 0.59, 0.98 and 0.93 respectively. The cost per saved life with limited treatment was \$21,238 USD, with HF was \$13,410 and with Factor rVIIa it was \$15,552 USD. The acceptability curve shows that the use of HF is cost-effective in 65% to 85% of the cases with a \$3,000 USD willingness to pay limit. **CONCLUSIONS:** Human Fibrinogen represents the best treatment alternative for the PPH in Mexican provinces with poor access to blood products and it would significantly reduce the MDR in Mexico.

### PIH38

#### COST EFFECTIVENESS OF HYSTEROSCOPIC TUBAL STERILIZATION (HTS) COMPARED TO LAPAROSCOPIC TUBAL STERILIZATION (LTS) FOR PERMANENT BIRTH CONTROL

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**OBJECTIVES:** The objective of the study was to assess the cost-effectiveness of hysteroscopic tubal sterilization (HTS) for permanent birth control, compared with laparoscopic tubal sterilization (LTS). **METHODS:** Cost effectiveness was addressed through an economic evaluation using a decision analytic model that compared the health benefits and resource expenditures associated with three alternative protocols: Calgary HTS protocol, Saskatchewan HTS protocol, and LTS. The analysis adopted a payer perspective and considered direct medical service costs to the Alberta health system, including costs of physician, hospital and confirmative diagnosis. The time horizon for the analysis considered costs from initial surgery to follow-up diagnosis up to 6 months post-surgery. Clinical and epidemiological data came from a review of literature and expert opinions. Cost data for LTS were primarily obtained from provincial administrative databases. **RESULTS:** Both the